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PLATES AND ILLUSTRATIONS.

GRAND CENTRAL TERMINAL, New York.

The "Terminal City," showing work when completed, -	Plate XX
Façade, Forty-Second Street, - - - - -	Plate XXI
Façade, Vanderbilt Avenue, - - - - -	Plate XXII
Pavilion, - - - - -	Plate XXIII
Façade, Depew Place, - - - - -	Plate XXIV
Detail, Concourse, - - - - -	Plate XXV
Ceiling over Concourse, and Detail, - - - - -	Plate XXVI
Lunch Room and Restaurant, - - - - -	Plate XXVII
Gallery in Concourse and Ramp to Lower Level, - - - - -	Plate XXVIII
Main Waiting Room and Detail of Concourse, - - - - -	Plate XXIX

Warren & Wetmore and Reed & Stem, Assoc. Architects.

RITZ-CARLTON HOTEL, Montreal.

Exterior, - - - - -	Page 46
Plans, - - - - -	48
Palm Court, - - - - -	50
Restaurant and Entrance Foyer, - - - - -	52

Warren & Wetmore, Architects.

COMPETITION DRAWINGS.

LOOMIS INSTITUTE, Windsor, Conn.

Successful Design and Plans, - - - - -	54, 55, 56, 57
Murphy & Dana, Architects.	
Competitive Design and Plans, - - - - -	58, 59, 60, 61
Chas. C. Haight & Githens, Architects.	
Competitive Design and Plans, - - - - -	62, 63, 64
Davis & Brooks, Architects.	

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GRAND CENTRAL TERMINAL.

THE new Grand Central Terminal (Plates XX-XXIX), covering an area of thirty blocks, is three times larger than any other terminal. It is probably the largest, and promises to be the most successful combination of the esthetic and practical in city building yet planned in America. Where other idealistic group plans have failed or remained incomplete because dependent upon appropriations by the city, this one will succeed because of its earning power. The property over the railroad yards, when leased, will turn in a revenue that will help to make good for, and pay interest on, the large amount of capital involved in the terminal and correlated improvements.

Dominating the group is the main terminal building. In designing this building the architects had in mind an expression of the old terminal idea, which is a gateway to a city; hence the central part of the façade is in the form of a triumphal arch of monumental proportions surmounted by a statuary group representing Progress, Mental and Physical Force. The style has something of the Doric motive, modified by the French Renaissance, with only enough

(Continued page 47)



RITZ-CARLTON HOTEL, MONTREAL.

Warren & Wetmore, Architects.

(Continued from page 45)

ornamentation to relieve the severity of the classic lines. All of the sculpture is after the design of Silvain Falieres.

The majestic loveliness of the exterior of this stupendous railway station, which will cost \$180,000,000, and the harmonious beauty of its lofty waiting rooms, its concourses and of every part of it are obvious. Perfection, however, is the sum of many little things. Comparatively few persons, outside of those actively concerned, have even the remotest idea of the vast amount of thought, study, skill and experience that has been lavished on every detail solely to make this an ideal place for the individual traveler.

The outbound concourse is the principal feature of the main building. It is a magnificent room. Only when standing under its vaulted ceiling can its impressive proportions be appreciated. This ceiling is painted to represent the dome of the sky with stars, constellations and signs of Zodiac plainly shown. It was designed by Whitney Warren, Paul Helleu and Charles Basing. It is lighted by six enormous dome-shaped windows, three at the east, and three at the west end.

On the concourse are the facilities usually found in the waiting-room of a railroad station, i. e., ticket office, baggage-checking booth, parcel rooms, information bureau, etc. They are arranged so that the movement of the traveler is a progressive one, the ticket window coming first, the Pullman window next, then the baggage-checking office, and so on. No steps will have to be retraced. From the concourse passengers proceed to the train room, which is reached by broad ramps of easy grade, the difference in level being only three feet. Underneath the main concourse is the suburban concourse, which is of about the same dimensions, excepting as to the height of ceiling.

The waiting-rooms are unique in station construction in that they are designed to serve as rooms where travelers may wait in comfort and quiet for the departure of trains or arrival of friends. These rooms are so located that it is unnecessary to pass through them in going from, or to trains, and they are thus free from the hurrying crowds.

Adjoining the waiting-rooms are the men's and women's rooms, barber shop, lavatories, toilets and dressing-rooms. These last named are a great convenience, providing, as they do, facilities for changing one's apparel and removing the stains of travel. Adjoining the concourse on the suburban level is the restaurant, a room artistically treated with a series of Guastavino arches, which takes its place as the peer of any restaurant in the best appointed hotels.

Scores of the greatest experts among practical railroad men, engineers and architects, together with the skill and experience of the John Peirce Co., contractors, have been at work for the last ten years solving the problem of getting the vast army of people to and fro through this city gate without crowding or confusion.

One of the features is the overhead street, easily identified in the illustration. It is by this street that Park Avenue, which is carried over Forty-Second Street on a viaduct and passes around the station to Forty-fifth Street, is made a continuous north and south thoroughfare, thus opening a new avenue to traffic.

THE LOOMIS INSTITUTE COMPETITION.

THE recently decided competition of the Loomis Institute has opened up a rather curious question in regard to the conduct of such competitions. The program, of the

usual type, was drawn by Professor Laird and contained a provision not at all uncommon in such programs to the effect that the professional adviser would make his report, placing the designs in relative order of merit, and that the committee with his advice would then make the award. The exact language of this was as follows:

"AWARDS. The trustees reserve authority to select the design to be premiated. But in recognition of the fact that, in competition, a determination of relative merits must rest solely upon technical grounds, the trustees expect to be guided by their professional adviser in making choice of the premiated design. They will therefore give careful consideration to the report of the adviser, making examination of the designs with his assistance, and will then proceed to the selection of the architect by designating them as 'premiated' that design which they regard as the best. * * * In their study of the designs the trustees will call into consultation, Professor N. H. Batchelder, Head Master of the Institute, and Mr. Emerson G. Taylor, Secretary to the Board, who have acted as consultants in formulating the conditions of the problem."

The terms as above set forth are generally construed by the competing architects to mean that the decision of the professional adviser will govern the selection by the jury, and while programs containing the provision above set forth have always in the past received the approval of the American Institute of Architects or of its chapters, the Loomis Institute competition was not thus decided. In fact the authors of the design which was originally placed by the professional adviser "fourth" were chosen by the Board of Trustees as the architects for the building. In other words, the use of the professional adviser in this case was merely in the preparation of the program, and in the decision as to whether the mandatory requirements had been carried out.

We have no desire in this article to condemn the conduct of the competition, either by the trustees or by the professional adviser or by the architects in the competition, nor do the architects placed first by the professional adviser feel that they were unfairly dealt with either by the winning architects or the trustees; nor was this case called to the attention of ARCHITECTURE by them. The sole point at issue is as to whether architects should compete in competitions where the choice of either the professional adviser or of a jury of architects is liable to be overturned by one, or a committee, of laymen.

In this particular competition the reasons for the reversal of the professional adviser's judgment were, as we understand them, two: The first was that the trustees considered the Colonial style more appropriate to a group of school buildings in Connecticut, than any other, and Messrs. Haight and Githens, who were placed first by the professional adviser, presented a Gothic scheme, while Messrs. Murphy and Dana presented a Colonial scheme. The above consideration should not have ruled since a letter of inquiry, previous to the submission of drawings, to the adviser elicited the reply that the Board of Trustees had no preference as to style. They evidently changed their minds, as committees are apt to do, upon seeing the drawings. The second reason for the choice of Messrs. Murphy and Dana was that the Principal of the school considered the plan submitted by Murphy and Dana better adapted to the needs of the school than that submitted by Haight and

(Continued page 49)

(Continued from page 47)

Githens. Here arises the question as to whether a layman is a better judge of plan than a professional adviser who must be assumed to have fully acquainted himself with the conditions desired and, in the sections quoted above, the board acknowledges definitely that the professional adviser should be the judge.

We feel and believe that it is highly undesirable to have untrained opinion overthrow trained, and we believe that wherever possible, competitions should be decided by either a jury of architects or the professional adviser finally and absolutely.

Another program which contains a provision which seems to us unfortunate is that of the new New York County Court House in which it is provided that the architect winning the competition need not be accepted by the Court House Board, but may instead be paid \$10,000 in full discharge of its obligations to him. This provision opens the way to the discharge of the successful competitor, and the employment by the board of any incompetent politician it may choose, and while we cannot question the motives of the Board of Trustees of the Loomis Institute, whatever we may think of their judgment, it seems extremely unfortunate that the acceptance of the winning architects in both these competitions should not be mandatory upon the respective boards.

THE MIDDLE AGES IN THE QUARTIER.

The Middle Ages is my theme,
When we lived in the Quartier,
The Bal des Quat'z Arts still a dream,
No one as yet a diplômé,
The gardien still pere Barbier,
Ah happy days across the sea,
When sometimes one stopped work for play
The golden days of ninety three.

One still heard rumors every day,
That empire's torch again was lit,
By ce brav general Boulanger,
And Trilby had not yet been writ,
Anthony Comstock Beranger,
Riots and raids, a bas Dupuy,
Such times ne'er saw Dumauiet,
Those golden days of ninety three.

The old Mont Blanc has passed away.
I've sought in vain, time and again,
Where we had many a midnight fray,
At soixante trois, la rue de Seine,
But twenty years have passed, à peine,
Since Madame Boulet held her sway,
Hornbostel roi there—who was reine
In golden days of ninety three?

There Gordie Pike amassed his fat,
And there, chez lui, Café des Arts,
One still found Casey at the bat,
Adonis like, breaker of hearts,
Stoughton, a connoisseur de tartes,
And Robert Kohn, espece de—Gee,
But there were men of brilliant parts,
In golden days of ninety three.

The ancients, as old Horace sings,
And to his learning I must bow,
For wisdom drained Pierian Springs,
But Richy Walker, God knows how,
Drew all his knowledge from a cow,
While Charley Morris, blythe and free,
Wrinkled in vain his Jove like brow
In golden days of ninety three.

Have you not heard a French tongue tell,
Of those whose names we heard so oft?
Weggellerickt, 'Ovarr, 'Ovell,
Myst'ries at first, in accents soft,
They'd have done better if they'd coughed,
They could pronounce them easily
If we could only learn to spell,
In golden days of ninety three.

The Warrens both, jeune and aîné,
Who, though they differed, never fought,
Silent de Gersdoff went his way,
Denby, who somehow learned untaught,
Flat Philadelphia's accent short,
And Sawyer, like a green bay tree.
Alas! we draw far from the port,
Of golden days in ninety three.

Others have gone, others still go,
To meet Macé de l'Epiné,
If he still rules,—'tis long ago
Since Tallant showed the old man gray
How mathematics might be play.
Some day again may our lot be
To feel once more the joyful glow,
The golden days of ninety three.

L'envoi.

Yet though the nights sometimes seemed short,
Take it from me, oui, moi, Traci,
Those were the good old days of sport,
The golden days of ninety three.

THE FUTILITY OF SEARCH FOR AN ARCHITECTURAL ESPERANTO.

EVARTS TRACY.

AT brief intervals some European architect, or one who believes himself to embody all culture, upon completing his little journey through the United States, gives vent to his disappointment that we have not an entirely new and individual architecture; something absolutely different from the old world. He is shocked to find that we use columns here, that we have cornices, and that there should be any reminiscence of the past. And the European is not the only one; we hear voices crying in the wilderness, and see letters in the newspapers, and their burden is always, "Give us something entirely different, away with the old."

Now we have begun to develop a National Architecture and shall develop one, but no style in any art ever sprang forth at the will of an individual, like Minerva full formed from the head of Jove. Architecture is distinctly analogous to language, and architectural style to literary style. So we have the style of the country, the period, and the individual.

(Continued page 51)



PALM COURT, RITZ-CARLTON HOTEL, MONTREAL.



Warren & Wetmore, Architects.

(Continued from page 49)

I have often been asked by a layman, if I do not admire a certain building, and if not, why not. Now I have felt on such occasions that the best answer I could make was that it was ungrammatical. There are some buildings which we cannot parse. And I see often many buildings, which I might call entirely faultless in their grammar, but with no style; the commonplace expression of a correct, commonplace mind. These stand out in distinct contrast to the work of the stylists, be they the calm dignified expression of their monumental character, or the refined and playful humour which buildings dedicated to the lighter side of life should possess. These seekers after what they call the original in architecture demand that we shall abandon all of our alphabet, our vocabulary, our grammar, and our syntax. They demand that we shall give up all the knowledge that the human race has painfully and slowly garnered through thousands of years. They ask that we shall start where the first builders did. The first architects worthy of the name put up their buildings, and developed the different members of their construction after an intelligent observation of the force of gravitation. By experiment, failure, and success, they found the dimensions of different materials, placed in different positions, which would withstand this mysterious force. And we found, centuries later, when the theory of stresses was developed, that the laws of beauty and the laws of strength were the same. Shall we give up all this knowledge? Man the race is greater than man the individual, and we are surely safe in our assumption that what man, for the entire historic period has clung to, is true. The sporadic little styles which have arisen for a few years, a century or two perhaps, and then passed into oblivion, accent the fact that the true remains and always will remain. At not infrequent intervals, however, it is announced that some one has invented an entirely new and original style, but when we analyze it we invariably find that the author, delving in the kitchen middens of past ages, comes on a fragment still bearing traces of some forgotten decoration, and elaborating it, casts it forth on the earth as a new style and forsooth his own. He has invented it, literally translated, come upon it. We shall go forward, using as best we can the best that the ages have found out for us, and what the ages have found to be best is best. We shall develop a national style because it is inevitable, and we shall do it with full memory of the past. "No man can quite emancipate himself from his age and country, or produce a model in which the education, the religion, the politics, usages, and arts of his times shall have no share. Though he were never so original, never so willful and fantastic, he cannot wipe out of his work every trace of the thoughts amidst which it grew. The very avoidance betrays the usages he avoids. Above his will, and out of his sight, he is necessitated, by the air he breathes, and the idea on which he and his contemporaries live and toil, to share the manner of his times, without knowing what that manner is."

ARCHITECTURAL EDUCATION FROM THE AMERICAN STANDPOINT.

LLOYD WARREN.

HOW interesting it would be could we follow the phases of architectural training through the Middle Ages! How inspiring it would be to us, who seek to perfect this training at the present day, if we knew the influences

which raised the art from the crude barrel-vault and block capital of the early Romanesque to the tenuous stone construction and the florid carving of Troyes and Notre Dame de Brou!

Nothing, however, is left to give us a hint as to how the science of the builders was transmitted from generation to generation in those days. The mediæval master-builder has passed away and has taken his secret with him; scarcely a document has remained, and nothing to inform us of his educational system. The builders before the Renaissance were a vast secret association, living and working apart from the rest of the world, migrating in companies when one cathedral was finished to the site of another which was beginning, guarding their secrets jealously, mystic and tenebrous as was the age wherein they lived, and with that age they melted away before the brilliant rays of the Reformation and the Renaissance.

Then came the age of the despots, the *literati*, and the precious; the pagan worship of the purely beautiful, which thrust aside the expression of construction as a thing inelegant and barbarous, and summoned the artist of pure form to build its temple. Æneas Sylvius and Filippo Strozzi thus called for the services of the sculptors Rossellino and Benedetto da Majano, and for nearly a century after only sculptors and painters occupy themselves with the design of monumental edifices. Then Palladio and Serlio codify the science of building design in such a way as to put its technique within reach even of the inartistic constructor; unfold, as it were by machinery, the secrets of the artist's magic of form and proportion, and create that phase of architectural education which, with little change, has come down to the present day.

Thus we may describe these phases from the time of the downfall of Rome—traditional through the Middle Ages; purely artistic through the Renaissance; and codified or systematised thereafter.

That this last phase still exists throughout Europe I believe, but in America a new one is being rapidly developed which we cannot but recognize; it is that of intensive specialization. The elements which now enter into the profession of architecture are so vastly complex that it is virtually impossible for one man to master them all. Think of them for a moment. Is it only necessary that one be a man of general culture, a man of affairs and a gentleman, for the public to hasten automatically to one's office? If we would not have important work slip through our fingers we must be so eminently men of affairs that affairs must occupy the larger part of our time to the neglect of many other things, and those chiefly artistic. I think you will not cavil if some one insists that we must also be scientific, and you know how absorbing is the science of modern construction. Then what place in all this is left for art? Shall architectural design never be anything but Palladian colonnades? Shall decoration and ornament be ever at the mercy of some clay-puddler in a modeller's shop?

In short, what part is art playing in our profession? Is it merely one of those confounded things after another of which it is said the life of to-day is composed? Is it for ever to consist of different copies of the splendid motives which Letarouilly has put within our reach, or in touched-up reproductions of the rather mediocre designs of modern European publications? Do you suppose that this great land of ours which has produced eminent statesmen, writers,

(Continued page 53)



RESTAURANT AND ENTRANCE FOYER, RITZ-CARLTON HOTEL, MONTREAL.

Warren & Wetmore, Architects.

(Continued from page 51)

orators, and soldiers, cannot also bring forth its Albertis and its Sansovinis? And if they come along, what are we going to do with them?—give them their pay by the week, and, as Mr. Cram has said, “force them to sketch themselves into a grave of watery deliquescence”? What part shall the artist play? Shall it be a chief and honourable part, or shall it be that of the salaried, and therefore not independent, draughtsman? There can be but one answer to this: the place of the artist in the practice of architecture should be second to no other, and to this artist should be opened an education which will enable him to assume that place.

Our architectural schools up to the present have refused to accept this phase of intensive specialization. Twenty years ago they differentiated themselves very little from the schools of civil engineering; to-day they will decline not to differentiate the scientific from the artistic in the profession itself, and though in the scientific branch the instruction is excellent, in the artistic it still leaves much to be desired, and students are not encouraged to choose one or the other on which to concentrate.

The realization that we had unavoidably passed into this educational phase of intensive specialization came to me only very recently. It had been my fond notion that all draughtsmen had the ambition to become all-round architects, and ten years ago I had urged Columbia University to open a night-school with that end in view. Being unable to pass this measure through at that time, it was with great interest that I saw Columbia last year, at the instigation of our Commission on Education, establish extension courses, which, taken in conjunction with the problems in design of the Society of Beaux-Arts Architects, would give a complete course in architecture. Imagine my surprise, then, when I found that, though the extension courses were well filled, only two of this Society's students were enrolled in them. All these boys were studying to specialize, each one in some one branch of architectural practice.

And, after all, is not this quite right? Do we not need in our offices men highly trained in each of the widely differentiated branches—the sanitary and ventilating experts, each up-to-date with the ever-improving apparatus; the writer of specifications, keenly alive to every new device for good and economical construction; the landscape gardener with a minute knowledge of plants and trees to protect the client from the florists' extravagances?

All this we are producing, but what is *horrible* is that we are rapidly producing, too, an artisan designer who in knowledge of plan and of composition excels the architect, his employer! Just stop a moment to realize what this means: the architect, that is, the man of culture, of affairs, and the gentleman, is ceasing to be the artistic inspiration of the work signed by his name, and soon the architect's office will be the mill, run by a business man, where art occupies a nameless and salaried position. The result of such a condition may have the quality of opportunism; but surely, where the artist is not in authority, his work can never rise to genius.

We cannot manufacture geniuses, but we can give them an opportunity to develop. We cannot develop the genius simply by the T square and triangle; his every æsthetic instinct must be aroused and given play. Rosellino and Benedetto did not produce the marvels in Pienza and Florence because they had technique in architectural drawing, but because they were *artists*, primarily sculptors, and

who knows whether they were either gentlemen or men of affairs?

The technique of architectural drawing is all very well, the principles of planning and the composition of façade are essential; but what is of overwhelmingly importance is to offer to the genius who may arise the possibilities of developing himself by practice in the three allied arts. Our universities must admit plastic art in their curricula; they must realize that the artistic side of our profession can only be developed in an art school; or America to the end of time will unfeelingly, and without understanding, reproduce Palladian colonnades and eighteenth-century ornament *ad nauseam*.

THE NEW YORK SKYSCRAPER.

A FRENCH engineer, a visiting member of the recent International Congress of Engineers, viewing New York from the fifty-fifth floor of the Woolworth Building, 865 feet above the rock foundation, said, “To the Seven Wonders of the World you Yankees will soon add an eighth, the 1,000 foot building!” And a Yankee engineer said, “We surely can, no doubt we shall.”

Curiously enough the Seven Wonders of the ancients were all works of engineering.

1. The walls and gardens of Babylon.
2. The Pharos and harbor works of Alexandria.
3. The pyramids of Egypt.
4. The temple and statue of Zeus at Athens.
5. The Colossus of Rhodes.
6. The mausoleum of Halicarnassus.
7. The Temple of Artemis at Ephesus.

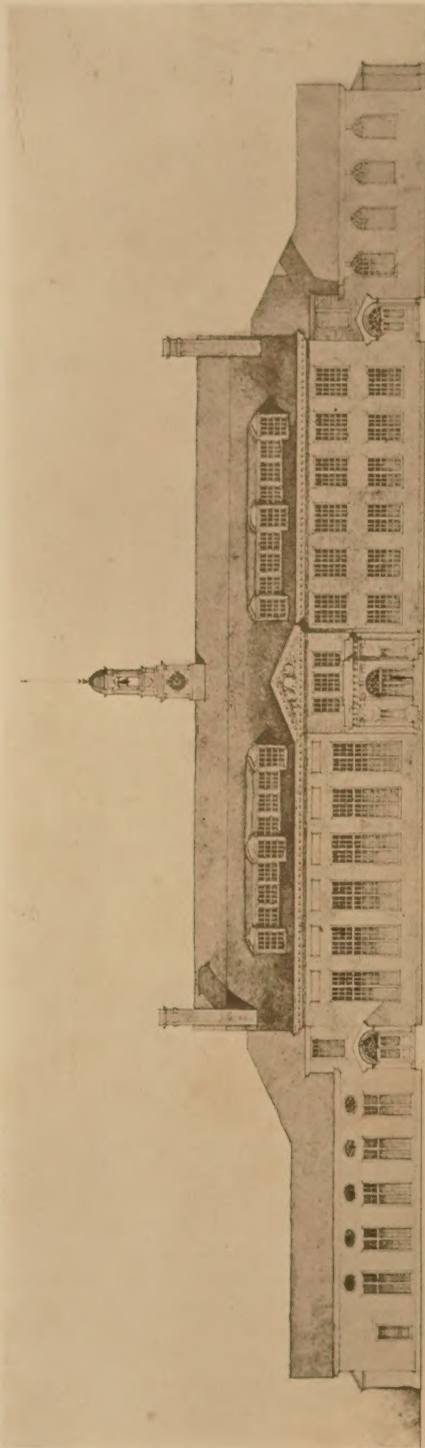
The first two are now but a clay mound, a rocky reef and a memory. Only the third still compels the admiration of the world. Of the seventy-five Egyptian pyramids the tallest, that of Cheops, measures but 450 feet, about one-half of the height from which the French engineer looked down not on “forty centuries” but two centuries of civilization. Two hundred years ago the lower end of Manhattan Island presented to the view a few hundred huts, barns and cottages on a shady, marshy ridge of rock, the tallest structure not over fifty feet high.

At the present time the annual expenditure for engineering work in and about New York is equal to that of all the rest of the world combined. The most striking evidence of this wealth and volume of engineering industry is the skyscraper, looming up higher and ever higher. During the single year 1911 fourteen skyscrapers of sixteen stories or higher were projected at an average cost of \$1,500,000. During the five years 1906-11 about sixty buildings of fifteen stories or more were designed, costing a total of about \$70,000,000.

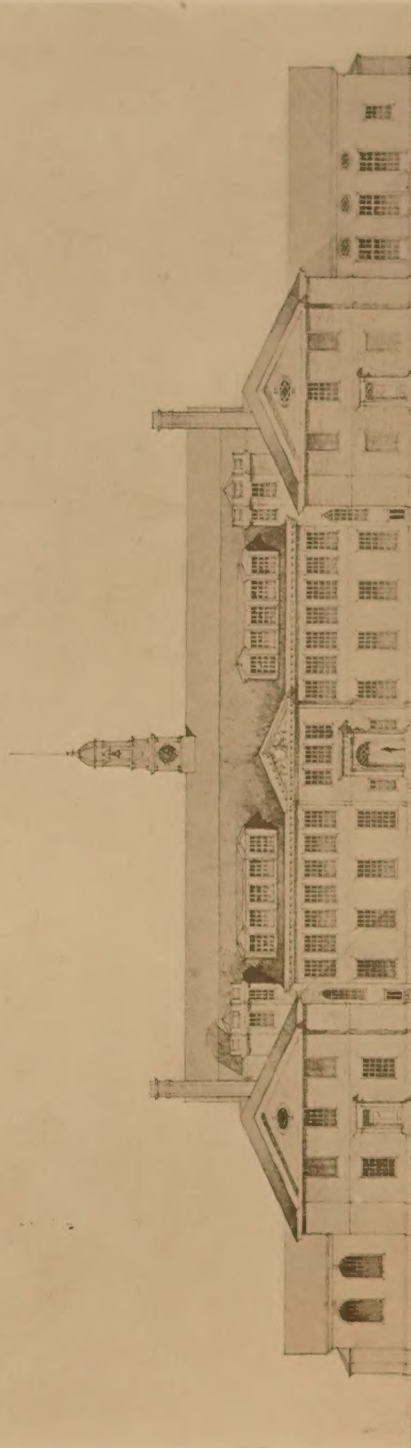
The official building statistics of Greater New York show an expenditure of over a billion dollars on building construction in the past five years. A dozen skyscrapers a year is the present pace in New York, meaning by a skyscraper a building at least sixteen stories high, for nothing less is now able to show its silhouette against the sky in lower New York and merit the title of skyscraper.

The tall building has been explained as a scientific evolution, as a product of economic stress and scarcity of land. It has been admired, scoffed at, been justified and condemned. It has been likened to the castle of the robber baron. But I am not aware that it has been recognized for

(Continued page 55)



QUADRANGLE (SOUTH) ELEVATION



ENTRANCE (NORTH) ELEVATION

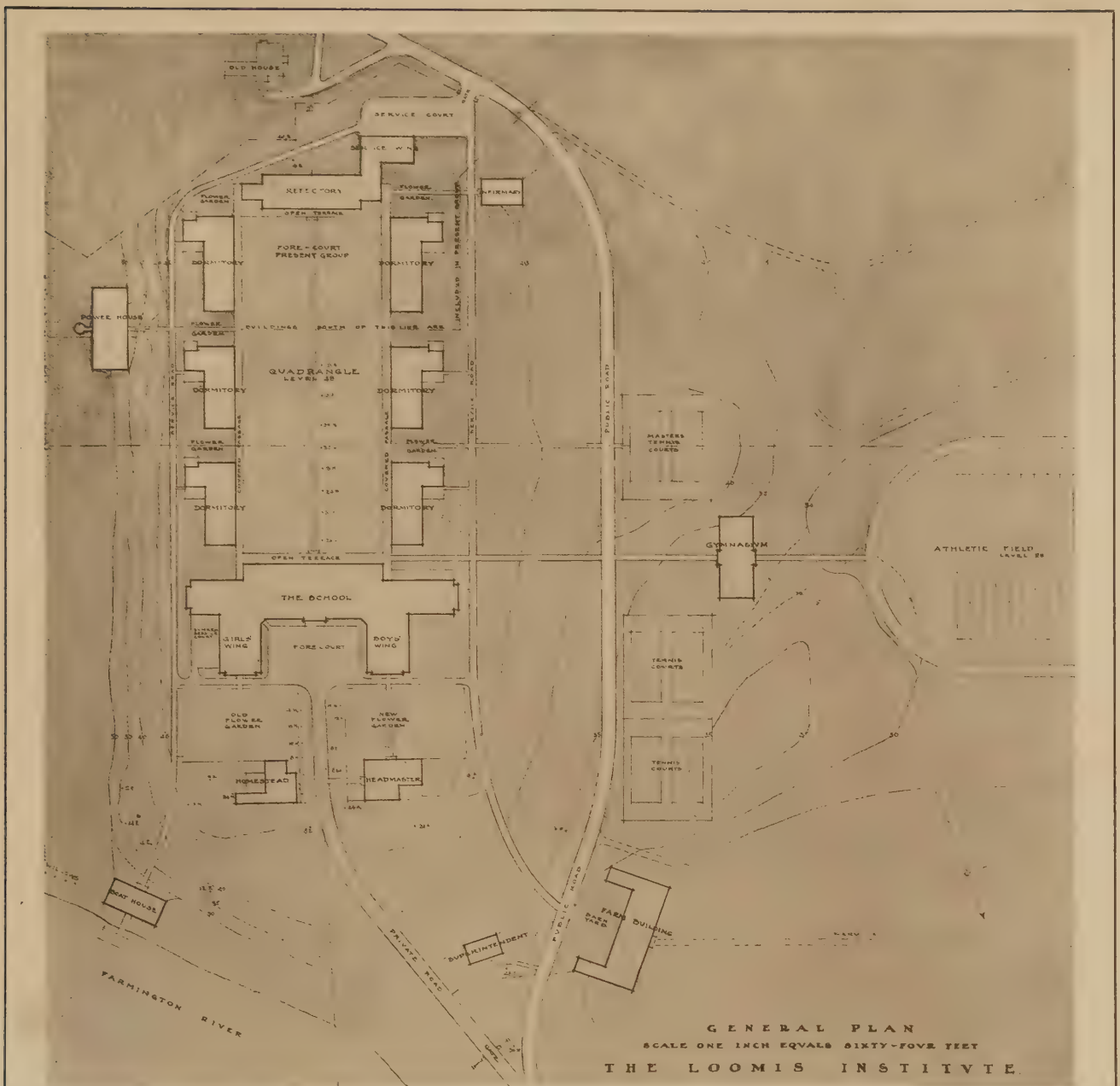
THE SCHOOL

SCALE ONE INCH EQUALS SIXTEEN FEET

THE LOOMIS INSTITUTE

SUCCESSFUL COMPETITIVE DESIGN, LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.



SUCCESSFUL GENERAL PLAN, LOOMIS INSTITUTE, WINDSOR, CONN.

Murphy & Dana, Architects.

(Continued from page 53)

what it is and will be to posterity, namely, the material expression of the American of this generation.

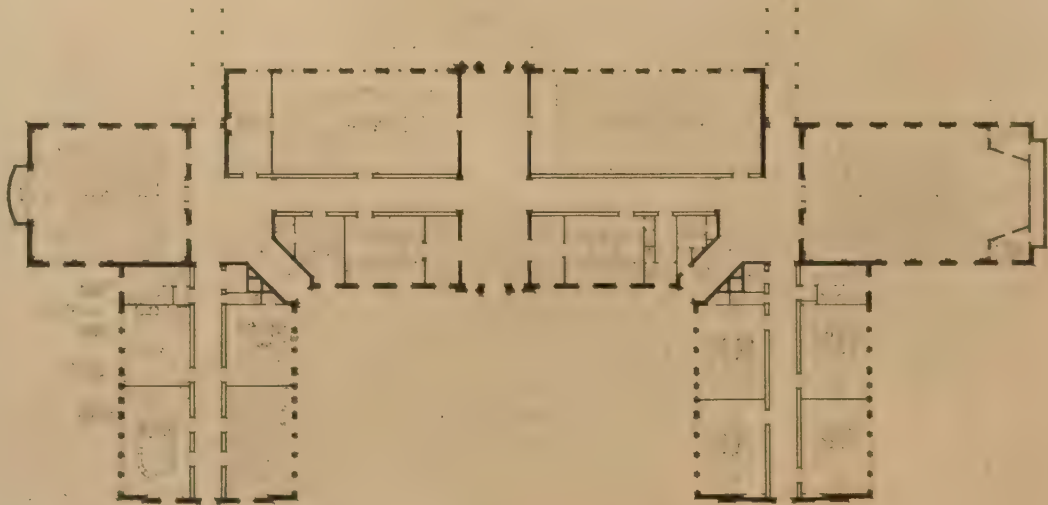
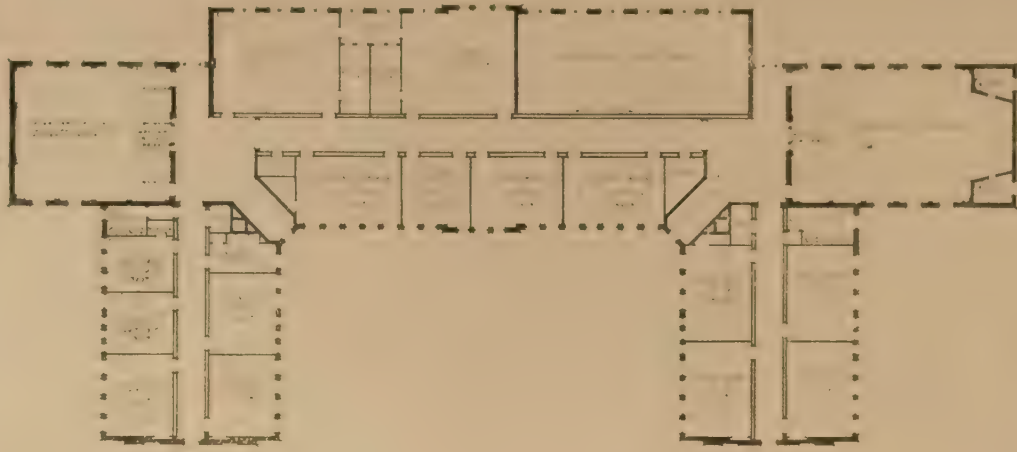
Just as the Egyptian left his mark, signed his name and gave the impress of his character to posterity in the pyramid, so is the American character and civilization symbolized in the skyscraper building. Seventy-five pyramids testify to the life of ancient Egypt, despotic, impassive, calm; and seventy-five rivals to the Woolworth Building will arise to testify to the American individuality, ambitious, assertive, successful.

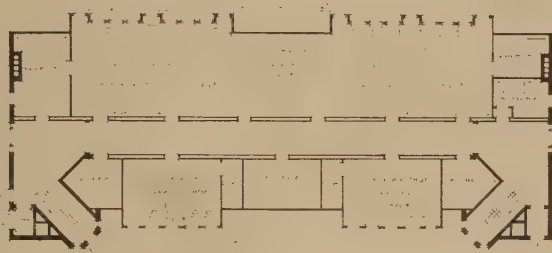
Following for a few moments the material evolution of the American tall building we note that the practical limit of height in brick and masonry construction was reached about 1870 in New York, when walls and piers became so thick as seriously to reduce the light by reason of the thick-

ness of the masonry. Previous to this time the records of the Building Department show but few buildings over eight stories in height. The heavy walls and piers encouraged architects to use the traditional Roman and Romanesque styles, and it was a generation before the evolution of light, strong steel construction shook off this incubus of clumsy rock studded with fossil architectural forms.

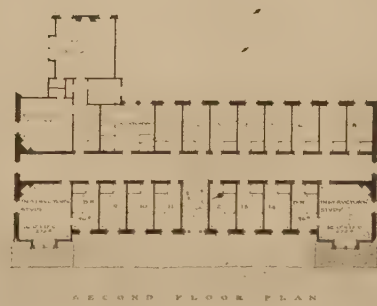
In 1880 two nine story buildings were erected, costing \$525,000. In 1881 with the development and appreciation of elevator service and the introduction of iron and later steel beams the record shows two ten story buildings and four nine story buildings. In 1882 an eleven story building was attempted. The thirteen story building did not arrive until 1889—the Pulitzer Building, 188 feet high, the first

(Continued page 59)

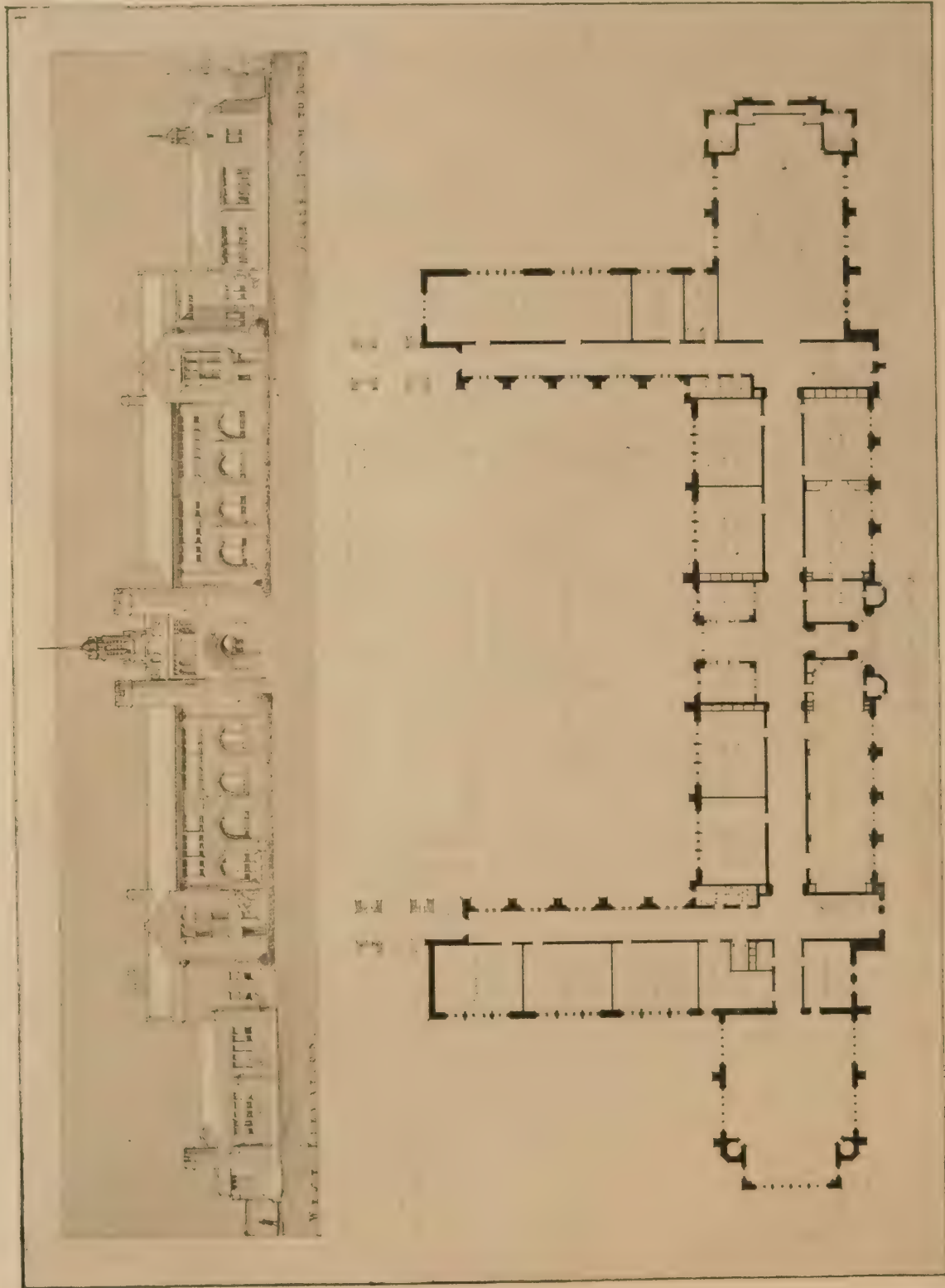




THE SCHOOL
THIRD FLOOR PLAN
SCALE ONE INCH EQUALS SIXTEEN FEET



PRESENT DORMITORY
SCALE ONE INCH EQUALS SIXTEEN FEET



COMPETITIVE DESIGN AND P.A., JOOMIS INSTITUTE, WINDSOR, CONN. Placed 1 by professional adviser.

Chas. C. Haight and Githens, Architects.



COMPETITIVE GENERAL PLAN, LOOMIS INSTITUTE, WINDSOR, CONN. Placed I by professional adviser.

Chas. C. Haight and Githens, Architects.

(Continued from page 55)

\$1,000,000 structure, and designed to be fireproof, as the term was then understood.

In 1891 a life insurance company projected a fifteen story building of skeleton construction, and the limit of height of this form of building began to be approached. The floors and roof were now frankly supported on metal beams and columns, and it was but a step from placing columns against the walls to placing them in the walls and making the walls non-bearing, that is screen or curtain walls. The practical limit with this form of construction is about eighteen stories, first reached in 1894.

With the introduction of cheap structural steel and the improved methods of fireproofing which have kept pace with growth in altitude, the engineer and the housesmith have perfected a new type of building—a structure which is organic, which is a unit, and which has a skeleton covered by a masonry sheathing or skin.

But masonry is not an appropriate material to make a skin out of. It is essentially a bearing, a supporting material. It is useful in mass, not in sheets. A skin covering is not a mass, it is of the nature of a membrane. And that is why some of the skyscrapers with their "masonry veneer" are so incongruous. Masonry possesses none of the logical attributes or qualities of a skin covering. Something better is coming.

From the practical point of view the American building is peculiarly logical. It is an articulated structure. The theory of its design permits of the rapid assembling from standard elements of a building of any volume to fit any condition or any location. Indeed the American building is so

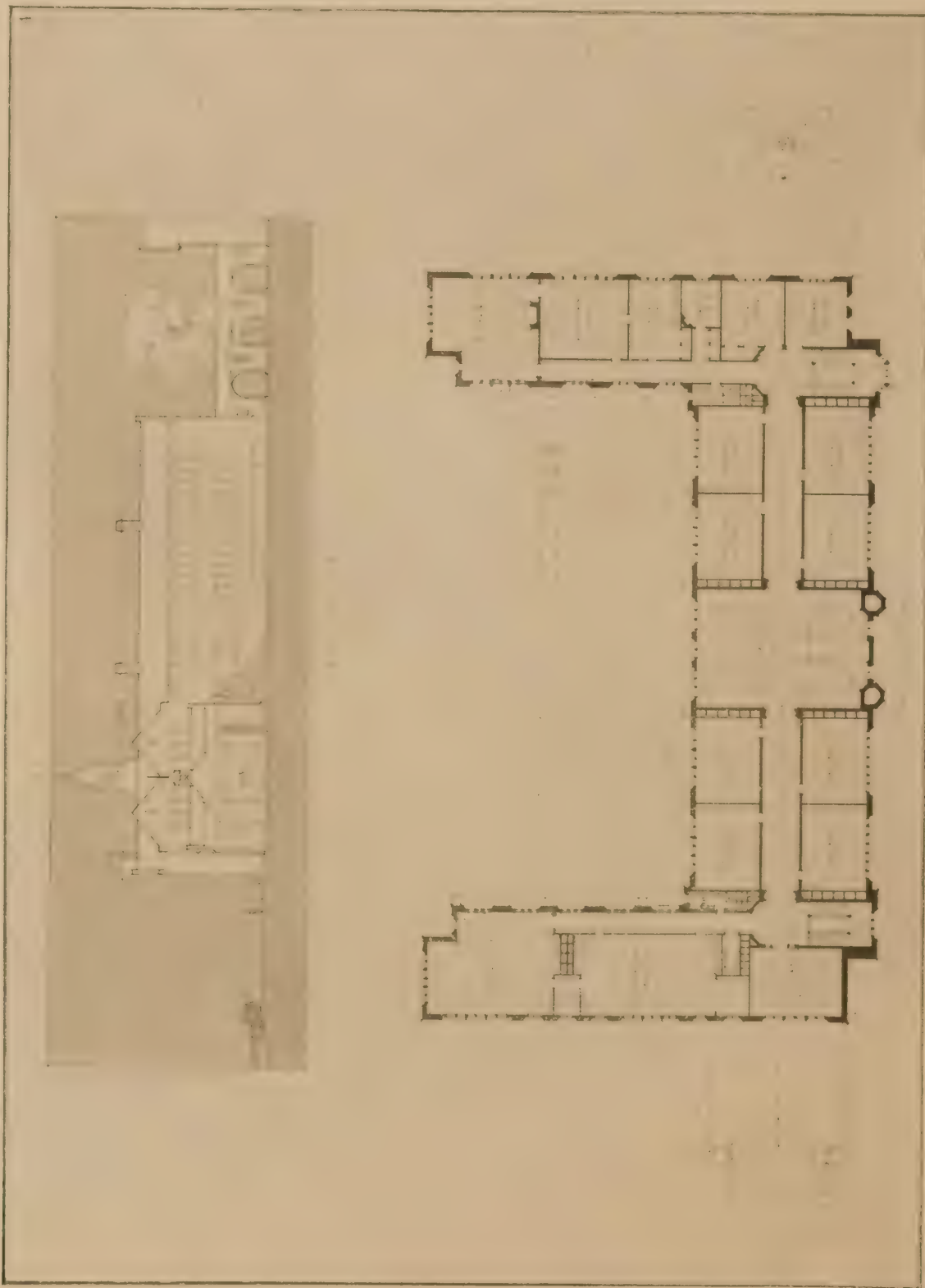
superior, that like American bridges it has been exported to Africa, Turkey and South America, and could win even in London and Paris were it not that English and French architects, of all professions the most conservative, are in the thrall of a heritage of beautiful forms which are out of keeping with the vigorous new structural evolution beyond the seas.

The skyscrapers are now in their second generation. Two notable earlier ones, in New York the twenty story Gillender Building and in Chicago the Rand & McNally Building, have given place to taller structures of a better type, though as far as structural stability is concerned they have continued to stand indefinitely.

Wood and masonry will have yielded place to steel with concrete as its adjunct, and other superior materials and methods will, no doubt, be evolved with the passing of the years, so that perhaps by 1950 we shall be well on the way toward construction in which no wood or stone forms any part whatsoever. Building, once a trade, the avocation of kings, taught as an art by rule of thumb, hidebound in masonic tradition, is now free to call the most gifted devotees of the abstract and pure sciences to its service, and it is beginning daily to do so more and more.

And what will it look like? We may rest assured first of all that it will look like what it is, will be without pretence, logical, direct and frank. By 1950 European architectural tradition will have lost in great part its hold on American architects. The structure will express itself. The wind braces will often show forth for what they are

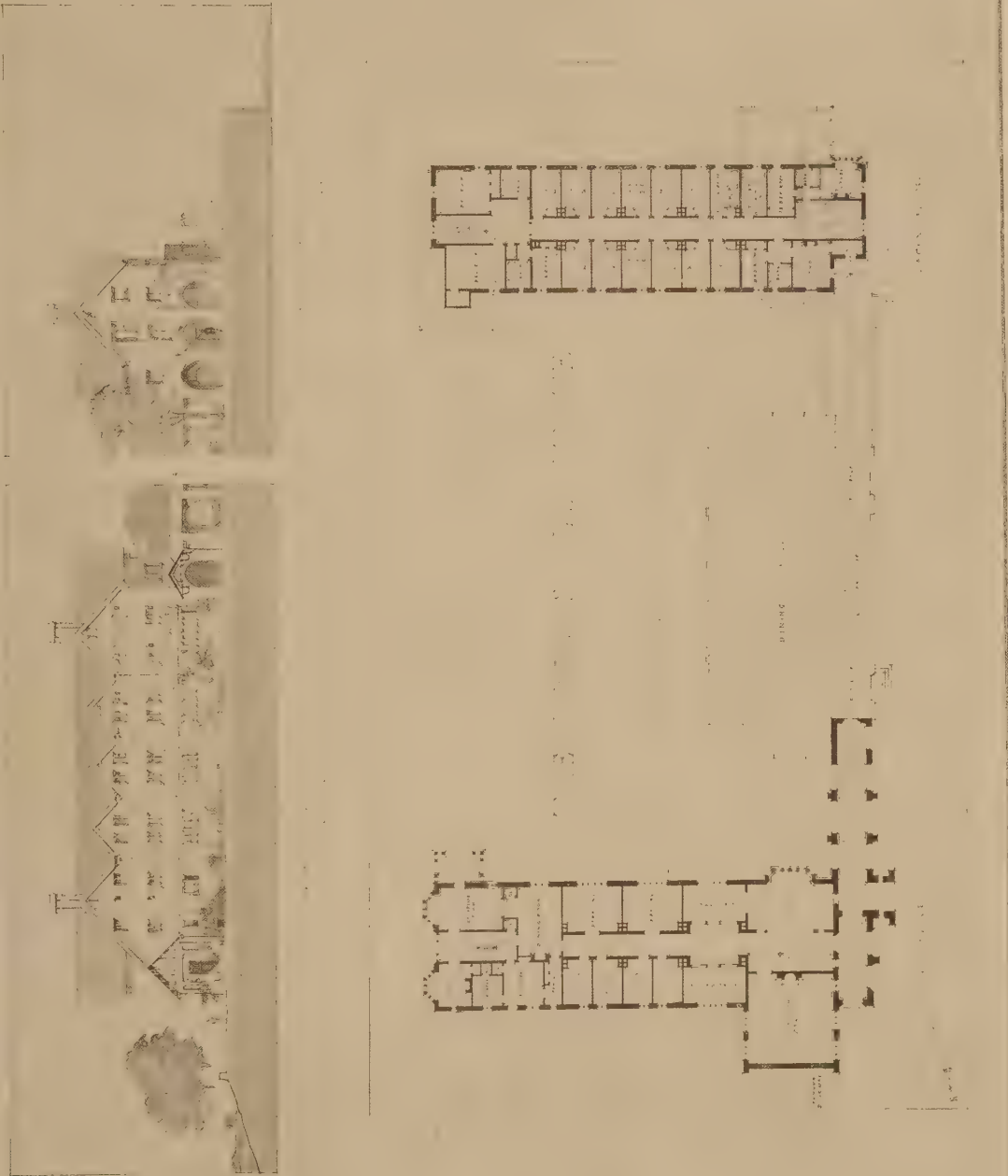
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COMPETITIVE DESIGN AND PLAN, LOOMIS INSTITUTE, WINDSOR, CONN. Placed 1 by professional adviser.

Chas. C. Haight and Githens, Architects.

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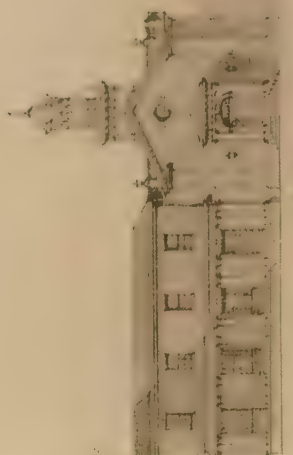


COMPETITIVE DESIGN AND PLANS, DORMITORY, LOOMIS INSTITUTE, WINDSOR, CONN. Placed 1 by professional adviser.

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East Elevation



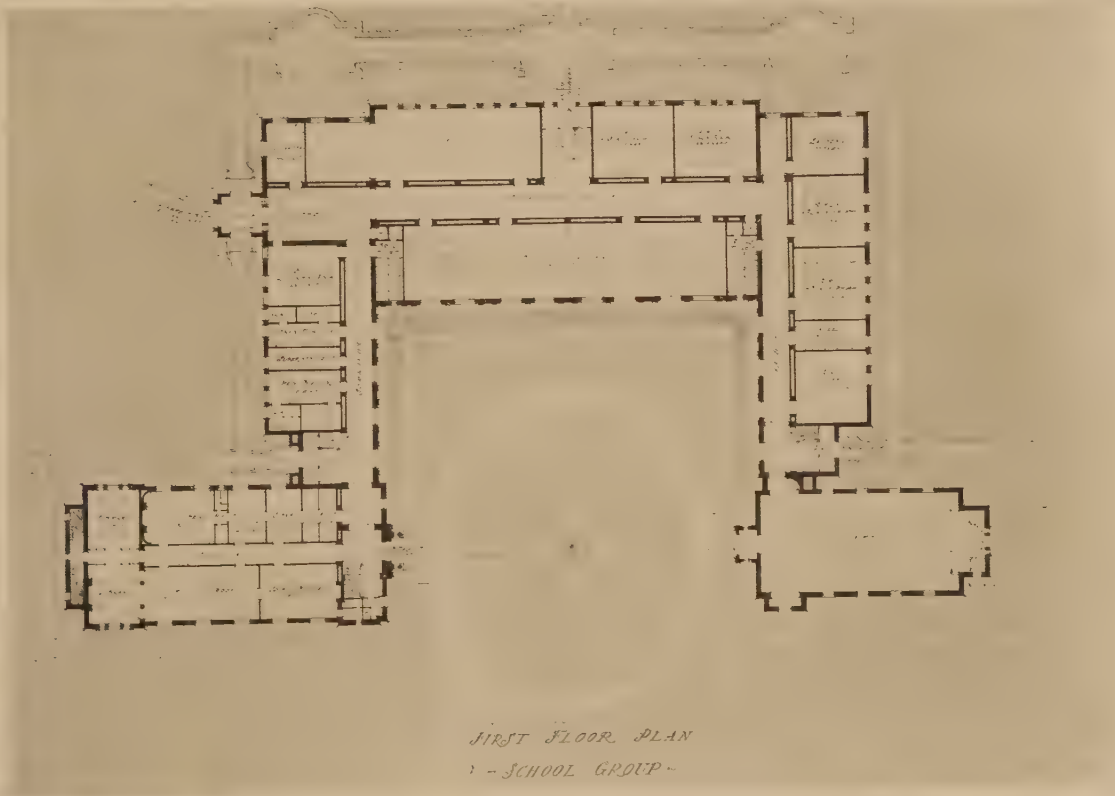
West Elevation

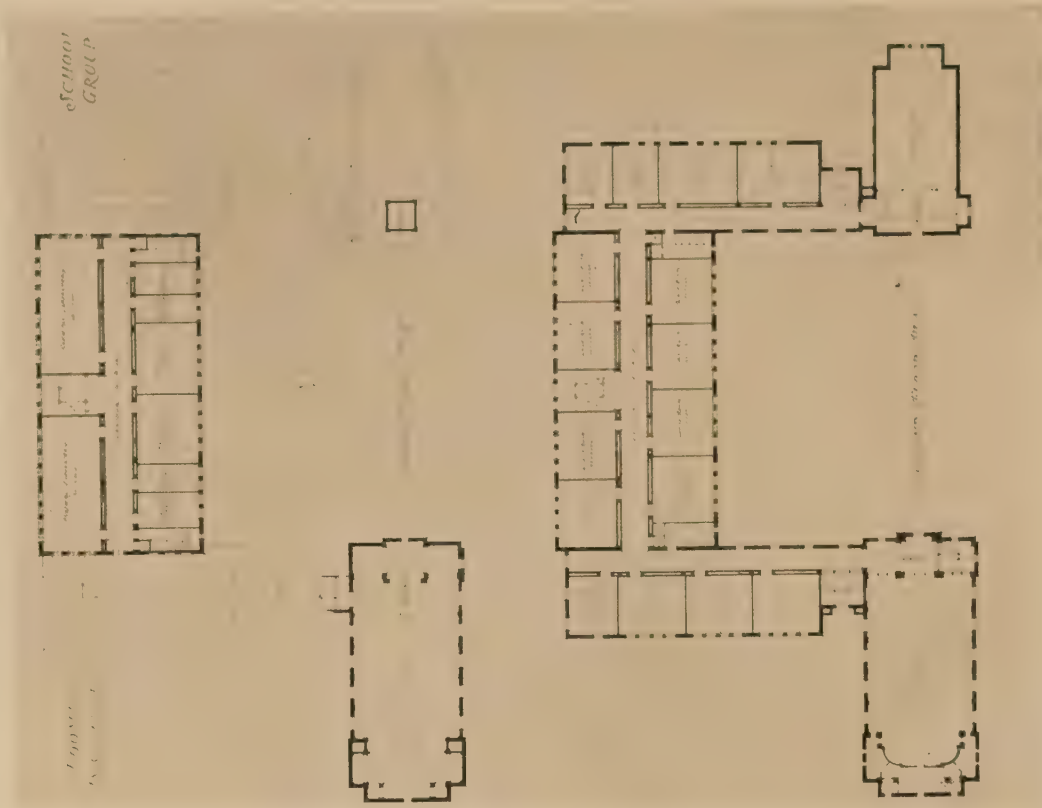
COURT ELEVATION OF WINGS



NORTH ELEVATION

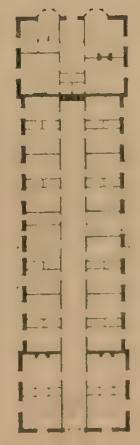
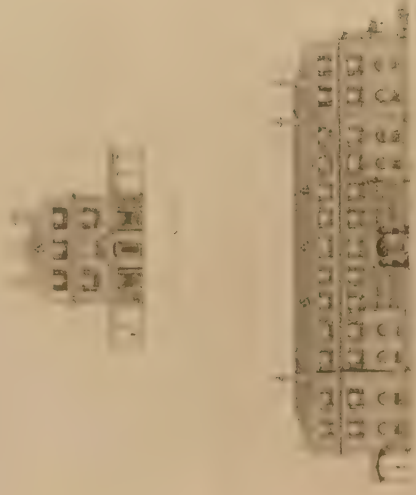
SCHOOL GROUP





SCHOOL
GROUP

Top
View



(Continued from page 59)

with the virility and strength of buttresses on a Gothic cathedral.

One will enjoy these firm, graceful lines, feel glad that they are there and rejoice in their strength. Why did those Americans of 1912 hide them in heavy stone and brick covering? As logically might a taxidermist cover the fine strong lines of a greyhound's skeleton with oyster shells, because biological tradition connects hounds and mollusks on the evolution theory of Darwin.

And to what purpose could the space in such a great building be applied? Will aeroplanes land on the pinnacle? Does a ship land on a projecting cape or promontory exposed to every gust that blows? Aerial navigators will land in the lee of the upper shaft, protected from the wind by it, if any such development comes to pass.

The upper shaft might well be used as a hotel, the body of the building for commercial offices. Such a 1950 "Seeing New York" hotel would offer light, air, exclusiveness and a panorama of the valley of the Hudson and New York harbor that would make the best 1912 hotel banal and commonplace in comparison.

Would it pay? It will! The Eiffel Tower cost over a million dollars and practically paid for itself the first year, 1889. What is the Paris of 1889 to the New York of 1950 as a sightseeing city; and then the Eiffel Tower had no possibility of hotel or office revenues as a constant income. The tallest building in New York—on the globe—will always pay. Such a wonder of the modern world will rival the Pyramids as a perennial marvel, and it can be built as everlasting as they.

THE QUANTITY SURVEYOR.

H. E. HUNTINGTON.

"AN English institution in the building trades which undoubtedly will, sooner or later, become established here and elsewhere is the 'quantity surveyor.' The quantity surveyor is a very useful member of society, solving many problems which still puzzle us. He is absolutely an English institution, and has been there indefinitely. We sadly need him; he is the best thing England could give us in the building trades.

"It is the quantity surveyor who makes an itemized bill of every particle of material which is to be included in the building, and, along with it, makes out a statement of what, in England, are called 'labors.' These are detailed statements of all the operations which each craftsman employed must use in order to produce the desired result. If, for instance, bricks are to be laid in an ornamental pattern, the extra work thus involved is carefully considered and estimated accurately. These quantity surveyors' bills go into the most minute detail, considering even each mitre in a plaster molding.

"In America, when the builders are bidding on a contract, each one 'takes out' for himself, making for himself a more or less accurate set of 'quantities.' In England the 'quantity surveyor' is the only one who does this, and he does it accurately and completely, thereby saving endless labor. This plan also assures the fact that all the bidders are bidding on the same thing, thus eliminating the occurrence, all too frequent in this country, of instances where men bid low because their estimators have forgotten to include something. This is a protection to the builder, therefore, as well as to the owner, and it is especially a

protection to the owner, for any reasonable owner must feel sure that when a builder makes an error of this kind he will make it up in some way.

"It is therefore apparent that the quantity surveyor must be very conversant with prices, and also he is the sole arbiter of the price to be paid for any work done on a building for which no price is mentioned in the contract. We will say, for example, that I, as builder, find oak screens specified in my bill, and you, the owner, later decide upon mahogany screens. The quantity surveyor will at once settle upon what the difference in price is to be, comparing the cost of mahogany with the original figures of the value of the oak. This is worked out upon a basis which is absolutely fair to the owner as well as to the builder. At the completion of the job the quantity surveyor makes his detailed valuation of every alteration which has been made in the original plan, thus leaving every one satisfied.

"Indeed, the surveyor fills a very useful niche, which in this country remains vacant. The American owner is afraid to change his plan, once the contracts have been signed for certain specifications. An alteration from oak to mahogany in the construction of his screens might afford a peg on which to hang a claim that he has broken the contract. The existence of the quantity surveyor gives a certain elasticity to English building operations which is missing here. It is possible in England to build exactly as one likes, changing and improving as one goes along, while in the United States such a course is recognized as dangerous."

SCHOOL BUILDING COMPETITION.

MR. WALTER COOK, the president of the American Institute of Architects, relates in the *American School Board Journal* some experiences of school building competitions which certain of our educational authorities might digest with profit. Here in America, such bodies, with no very high sense of duty or clear understanding of their functions, are sometimes apt to forget that the only thing which their members can properly keep in mind is the best interest of the community. They seem to consider the designing and supervision of a new building as a sort of prize to be striven for by the architects—as if it were a piece of meat thrown out to be scrambled and fought for by a pack of hungry dogs. This point of view might have a certain reasonable aspect if we could lose sight of the fact that the ability to produce an attractive design on paper is only one part of the architect's work—only partially related to his ability as the constructor of a building. Only too often this incompetence fails to fulfil the expectations raised by the drawings, either as to beauty or utility. And, the cases in which even the drawings are made *not by* the architect, *but for* the architect are, unfortunately, not altogether unknown.

A number of years ago the Board of Education of a thriving city in one of the Middle States was confronted with the problem of a new school building. Upon deciding to have a competition for the selection of an architect, the members of the board retained Mr. Cook as professional adviser. Their first statement was that "public opinion demanded that all should have a chance." When the dangers of this course was pointed out to them, and competition between a limited number of architects of proved ability was recommended, they finally, with perhaps some reluctance, agreed to a compromise. The competition was advertised, and the announcement was made that any architect desiring

to compete should submit his name and qualifications to the board. From these names a number, not to exceed fifteen, who seemed to promise the best showing, were to be allowed to compete, and no other. The competition proceeded in due course, one of the competitors was appointed, and the schoolhouse was built.

Some years afterwards the same board had another schoolhouse to build, and again consulted Mr. Cook. "We have concluded," they said to him, "that you were right in your advice. For this competition we are only going to invite five or six architects, all of whom we know are good men, and whom we shall pay for their services." The competition was held, and it happened that the winner was the same architect who had built the former school. Again, some years later, a third school was to be erected. The Board of Education then decided that, even though the results of the former competitions had been successful, a competition in this case was neither necessary nor desirable; and the same architect was again appointed. Thus, knowledge was gained by experience, to the advantage of all concerned, and the saving of much useless and unpaid labor to architects.

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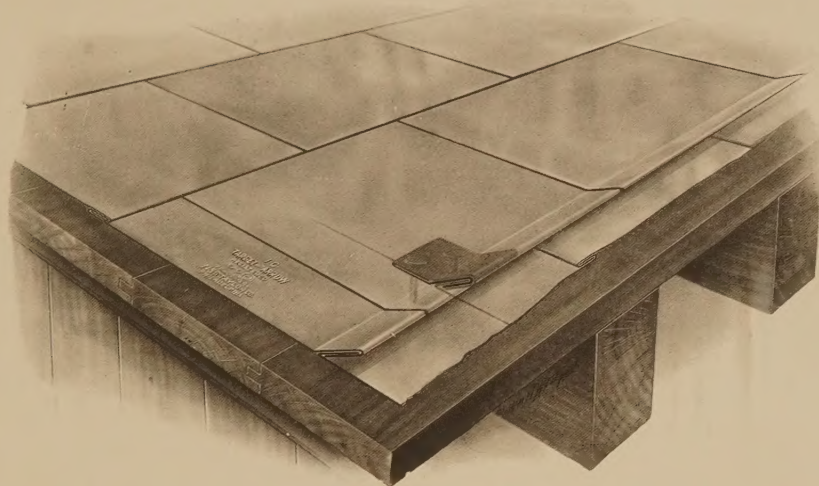


Fig. A. Showing the sheets in position before seam is hammered down and soldered. One cleat also shown (magnified) with faint lines indicating the various folds of tin in the seam.

How to Apply Tin Roofing with Flat Seams

These illustrations show the method of forming the seams.



Fig. B. Sheets of tin put together in long lengths with edges turned ready to lay on the roof.

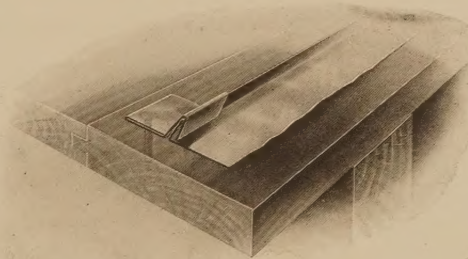


Fig. C. Showing method of fastening the tin to the roof. Cleat in position. The adjoining sheet is hooked over this and the seam hammered down and soldered, locking the cleat firmly into the seam. One end of the cleat is turned over the nail heads to prevent scratching the under side of the tin.

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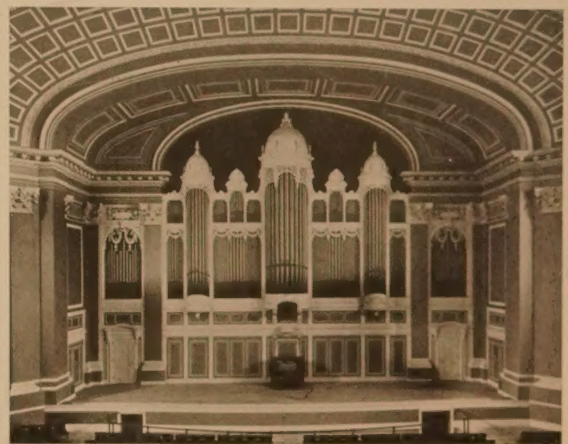
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